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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Blakely Sokoloff Taylor & Zafman LLP
12400 Wilshire Boulevard
7th floor
Los Angeles, CA 90025

EXAMINER	
JUNG, MIN	

ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/499,871	ELLIS ET AL.	
	Examiner	Art Unit	
	Min Jung	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 2, 6-8, 11, 12, 16-18, 21, 22, 26-28, 31, 32, 36-38, 41, 42, and 46-48 are rejected under 35 U.S.C. 102(e) as being anticipated by Rochberger et al., US 6,272,107 (Rochberger).

Rochberger discloses method of path restoration in an ATM network utilizing point to point switched virtual circuits.

Regarding claims 1, 11, 21, 31, and 41, Rochberger teaches an apparatus, method, and a system for rerouting user connections between first and second nodes in a network switch, the apparatus comprising: a loop-back path to provide connectivity

between the first and second nodes (loop-back, col. 5, lines 27-39, and shown by dotted line 313 in Fig. 17), the first node having a primary connection (connection shown in Fig. 2) and a secondary connection (connection shown in Fig. 3), the primary connection carrying the user connections during a normal mode, the secondary connection not using network bandwidth during normal mode; and a switching element coupled to the loop-back path and the first node to connect the loop-back path to the primary connection during the normal mode and to the secondary connection when there is a failure condition at the primary connection. See, for example, col. 5, lines 27-39, col. 7, line 62 – col. 8, line 14, col. 13, lines 54-56, and col. 15, lines 58-65.

Regarding claims 2, 12, 22, 32, and 42, Rochberger shows the loop-back path being at least a physical connection (shown in Fig. 17).

Regarding claims 6, 16, 26, 36, and 46, Rochberger teaches that the secondary connection does not carry user connections during the normal mode (Rothberg teaches that "the redundant path is meant as a backup to the active path in the event of a node failure or link break" at col. 13, lines 55-56; also, it is taught that 'the data is rerouted over the redundant path' at col. 15, lines 61-62, and col. 16, lines 57-59).

Regarding claims 7, 17, 27, 37, and 47, Rochberger teaches that the network switch is an ATM switch (ATM network, col. 4, lines 49-55).

Regarding claims 8, 18, 28, 38, and 48, Rochberger teaches that the primary and secondary connections correspond to a virtual path connection (VPC) in the ATM switch (Rochberger's teaching is on path restoration in an ATM network, col. 1, lines 6-10).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3-5, 9, 10, 13-15, 19, 20, 23-25, 29, 30, 33-35, 39, 40, 43-45, 49, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rochberger.

Regarding claims 3, 13, 23, 33, and 43, Rochberger fails to specifically teach that the failure condition is detected by a network monitor. Rochberger, however, teaches the failure condition detection nonetheless (software detection at col. 5, lines 19-25, and hardware detection at col. 5, lines 26-39). To perform a detection function, it is imperative that some kind of network monitor is provided. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to implement the detection function of Rochberger by employing a network monitor to detect the failure condition.

Regarding claims 4, 14, 24, 34, and 44, Rochberger teaches a re-route handler coupled to switching element to control the switching element based on a connectivity status between the first and second nodes, the connectivity status indicating the failure condition at the primary connection between the first and second nodes (the transit node #1 including the ports 316 and 318 detects the break in connection, col. 16, lines 18-23).

Regarding claims 5, 15, 25, 35, and 45, Rochberger fails to specifically teach that the switching element switches the connectivity based on the connectivity status provided by the network monitor. Although Rochberger fails to show a network monitor as a physical device, Rochberger teaches the function of monitoring and detecting the connectivity status, and the switching is performed based on the connectivity status. See col. 16, lines 18-23, and Fig. 17. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to specifically include a network monitor to provide the connectivity status for the connectivity switching operation.

Regarding claims 9, 19, 29, 39, and 49, Rochberger teaches OAM cell (col. 12, line 64) and a call release procedure (col. 5, lines 40-41).

Regarding claims 10, 20, 30, and 40, Rochberger teaches that the primary and secondary connections have equal connection capacity (Equal connection capacity is assumed because Rochberger does not teach it to be otherwise. Further, Rochberger teaches that the same VPI/VCI pair is used for both the primary path and the redundant path).

Response to Arguments

5. Applicant's arguments filed May 16, 2007 have been fully considered but they are persuasive only in part.

Applicant's arguments regarding the rejections under 35 USC 101 and 35 USC 112 are persuasive and therefore, the rejections have been withdrawn.

Applicant's arguments regarding the rejection under 35 USC 102 and 35 USC 103 are not persuasive and therefore, the rejections are repeated above.

Applicant argues that Rochberger merely discloses that the Tx buffers are looped back to the Tx direction and the data that would be output to output port is looped back to the switching fabric, at a similar point as data input to the input port, and therefore, the loop back path does not provide connectivity between the first and the second node. Applicant reasoning (the portion of Rochberger's teaching) for drawing such conclusion (the 'therefore' clause) seems not focused on the issue. Examiner would like to point out that in Rochberger, when a link breaks, traffic is rerouted over the redundant path (col.15, lines 58-63), and as a process of rerouting, the cells being transmitted from the end nodes are looped back to the end nodes (col. 15, lines 63-64). Therefore, the loop back path does provide connectivity between the first and the second nodes.

Applicant further argues that Rochberger merely discloses that the source node attempts to calculate a secondary path from the source node to the destination node, and therefore, there is no switch element to switch the connectivity from the primary connection to a secondary connection, or to connect the loop back path to the primary connection during the normal mode and to the secondary connection when there is a failure condition at the primary connection. Again, the portion of Rochberger's teaching relied on is not relevant to the conclusion drawn. Note that Rochberger establishes two paths, the primary path and the redundant path. The redundant path is not used until a break is detected and the transmission is looped back. See cols. 13-16. At the time of link break, a state machine in the end switches is triggered which causes each Rx data

to be rerouted over the redundant path that was previously established. The Rx data that is looped back is then transmitted as Tx data over the redundant path. See col. 16, lines 56-60. Therefore, Rochberger teaches a switch element to switch the connectivity from the primary connection to a secondary connection, and to connect the loop back path to the primary connection during the normal mode and to the secondary connection when there is a failure condition at the primary connection.

Applicant further argues that path 313 in Rochberger merely shows that the data that would be output to output port 316 is now looped back to the switching fabric, at a similar point as data input to input port 318, and in contrast, in the present invention, the loop back path is connected to the primary connection during normal mode and to secondary connection when there is a failure condition at the primary connection. Applicant's attention is directed to the fact that the dotted line 313 shows how the data is redirected, and therefore, does not actually represent a physical path. By redirecting (loop back) the data, the path the data travels for loop back becomes a loop back path. Data is looped back at the transit node to be redirected at the end node. Therefore, Rochberger teaches the loop back path being connected to the primary connection during normal mode and to secondary connection when there is a failure condition at the primary connection.

Applicant further argues that detection and monitoring are two different functions, and pretty much concludes that Rochberger does not include a network monitor. Although Rochburger does not call it a network monitor, Rochberger teaches functions implemented in software and hardware to perform the failure condition detection. The

software implementation, Q.SAAL signaling layer detecting the broken link, for example reads on the function failure condition detection, and in this case the Q.SAAL signaling layer may even read on the network monitor.

Applicant further argues that the Rochberger's teaching of the hardware break detection merely detects a break, and it does not handle the reroute based on a connectivity status. On the contrary, examiner believes that in Rochberger, the break detection result indicates a connectivity status, and the break detection result indicates a failure condition, and therefore, the connectivity status indicates the failure condition. When a break is detected, the hardware switches to loop back operation, to reroute the data through the redundant connection. See col. 15, line 55 – col. 16, line 65. The fact that the break is detected by hardware or software is beyond the requirement for the limitation recited in this group of claims. However, software implementation is also taught throughout the specification. See for example, col. 5, lines 19-25.

Applicant further argues that Examiner's statement that it would have been obvious fro one of ordinary skill in the art to specifically include a network monitor to provide the connectivity status for the connectivity switching operation is erroneous as it lacks in evidence or support. In response, Examiner would like to repeat that Rochberger teaches the function of monitoring and detecting the connectivity status, and the switching is performed based on the connectivity status. Although Rochberger does not specifically use the word "monitoring", the specification is replete with teachings on failure condition detection. In order for a network condition to be detected, monitoring would be an inherent function, or else, how can any condition be detected?

Detection is a more active step than just a monitoring step in the sense that monitoring doesn't always lead to detection, but detection inherently requires some type of monitoring. Therefore, the function is clearly taught using hardware detection and software detection. Therefore the conclusion, it would have been obvious for one of ordinary skill in the art at the time of the invention to specifically include a network monitor to provide the connectivity status for the connectivity switching operation.

For the forgoing reasons, the rejection under 35 USC 102 and 103 are maintained.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Min Jung whose telephone number is 571-272-3127. The examiner can normally be reached on Monday through Friday 9:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJ
July 30, 2007

Min Jung
Primary Examiner